

013022

JPRS 82203

9 November 1982

Worldwide Report

ENVIRONMENTAL QUALITY

No. 376



19980828 148



FOREIGN BROADCAST INFORMATION SERVICE

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

7
50
A03

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 82203

9 November 1982

Worldwide Report

ENVIRONMENTAL QUALITY

No. 376



FBIS

FOREIGN BROADCAST INFORMATION SERVICE

9 November 1982

WORLDWIDE REPORT

ENVIRONMENTAL QUALITY

No. 376

CONTENTS

ASIA

AUSTRALIA

Darling Range Study Group Report Makes Recommendations (THE WEST AUSTRALIAN, 17 Sep 82).....	1
Call for Public Input Land-Use Issues	
Tough New Strip-Mining Controls Imposed by Government (THE WEST AUSTRALIAN, 17 Sep 82).....	4
WA Waste Disposal Operators Seek Relaxation of Controls (THE WEST AUSTRALIAN, 3 Sep 82).....	5
Logging Opponents, Loggers Said To Resort to Violence (THE COURIER-MAIL, 3 Sep 82, THE WEEKEND AUSTRALIAN, 3 Sep 82).....	6
Conflicting Charges in NSW, by Bill Ord Arrest of Demonstrators	
Sydney Air Pollution Sets Record; Laws on Backyard Fires Eyed (Richard Eckersley; THE SYDNEY MORNING HERALD, 2 Sep 82).....	8
Labor Party Promises Top Priority to Beautifying Brisbane (Bill Ord; THE COURIER-MAIL, 3 Sep 82).....	9
Editorial Examines Shannon Basin Conservation Issue (Editorial; THE WEST AUSTRALIAN, 1 Sep 82).....	10

Yarra River Area First in Victoria To Get Special Protection (Rosslyn Beeby; THE AGE, 7 Sep 82).....	11
Clash Follows WA Approval of Mining in State Forest (Steve Harvey; THE WEEKEND AUSTRALIAN, 25-26 Sep 82)....	12
Briefs	
Herbicide Protection Law	13
Noosa River Park	13
Archaeologists on Franklin Dam	13
PEOPLE'S REPUBLIC OF CHINA	
Steady Progress Noted in Water Conservation Projects (Chong Yi; GANSU RIBAO, 7 Sep 82).....	15
SRI LANKA	
Pollution Laws for Kelani River (Jennifer Henricus; SUN, 8 Oct 82).....	17
EAST EUROPE	
CZECHOSLOVAKIA	
Environmental Protection Investments Evaluated (Josef Jirat; HOSPODARSKE NOVINY, 27 Aug 82).....	18
NEAR EAST AND NORTH AFRICA	
ISRAEL	
Weather Service, Health Ministry Differ on Pollution Issue (Aharon Pri'el; MA'ARIV, 9 Sep 82).....	30
Improvement Reported in Lake Tiberias Water Quality (HA'ARETZ, 7 Sep 82).....	34
SUB-SAHARAN AFRICA	
INTER-AFRICAN AFFAIRS	
Drought Reported Pushing Sahara to South (THE CITIZEN, 19 Oct 82).....	36

SOUTH AFRICA

Briefs

Zululand Drought	37
Dangerous Gases	37
Drought Aid	38

WEST EUROPE

FINLAND

New Law To Control Air Pollution Comes Into Force (UUSI SUOMI, 3 Oct 82).....	39
Study of Gulf of Finland Seals To Aid in Pollution Analysis (HELSINGIN SANOMAT, 26 Aug 82).....	41

SWEDEN

Government Expected To Toughen Laws on Ships' Oil Discharges (DAGENS NYHETER, 22 Sep 82).....	42
Study Shows Drop in Amount of Hazardous Waste Since 1978 (DAGENS NYHETER, 21 Sep 82).....	44

DARLING RANGE STUDY GROUP REPORT MAKES RECOMMENDATIONS

Call for Public Input

Perth THE WEST AUSTRALIAN in English 17 Sep 82 p 4

[Text]

THE WA Government has been told that people should have more opportunity to contribute to decisions on land-use in the Darling Range.

A report by the Government appointed Darling Range study group says that there is no adequate system for the public to take part in decision-making at departmental level.

More communication and consultation with interested groups could help both sides.

Examples included planning for an aluminium smelter, rehabilitation of coal-mining areas, options for solving the Wellington salinity problem, review of bauxite mining plans and management objectives for State forests and water supply catchments.

The report, released yesterday, recommended that all departments be required to give notice of intention to build major works or to cause significant changes in land use in the 1,346,000 hectare study area.

[The area stretches from the Helena catchment in the north to the Collie catchment in the south and is bounded on the west by the Darling Range and on the east by a line joining the eastern extremities of the two catch-

ments.]

The report said that notices in newspapers should invite objections or submissions well in advance of projects. Full consideration of all issues should be allowed.

On sensitive issues, public debate should be encouraged through the use of information papers similar to the British parliamentary white and green papers.

Suspicion

Lack of communication led to uncertainty, confusion and suspicion.

There was considerable confusion and worry among people with an interest in the future of the Darling Range.

The study group thought that more community access to information and wider public debate on issues, values and objectives would benefit the Government and the people.

The group, headed by Mr W. D. Benson, started work in January 1980 on a wide-ranging study with a brief to advise on poli-

cy and coordination of land-use planning.

It said that there was no integrated framework plan for land use in the study area.

Consequent uncertainty made planning more difficult and could lead to conflict.

It was first necessary for each department, local authority and industry to clearly identify its own policies and develop its own framework plan.

Few had done this.

Such plans could then be incorporated into an integrated plan giving priorities.

That plan would need to take account of Government policies and should be made public.

The integrated plan should recognise the need for multiple use of land to reduce conflict and to expand the resource base for various activities.

It should be reviewed every five years.

The Forests Department allocation of land uses to management priority areas should

be accepted as an interim integrated land-use plan for the study area.

New unit

Resolution of issues arising from the plan would be the task of a suggested new land-use advisory committee.

This would have an independent chairman and the heads of nine departments — Resources Development, Agriculture, Conservation and Environment, Forests, Metropolitan Water Authority, Mines, Public Works, Town Planning and Youth, Sport and Recreation.

An executive support group, including professional officers, should be formed. This would cost about \$250,000 a year.

The Government should support the idea of integrating conservation with resource development at the design stage.

The group urged more money for research on salinity standards, the threat to water quality of die-back, logging practices in quarantine and salt-risk areas of water catchments, and on forest ecology.

Up to 40 extra staff would be needed to implement the research proposals. The annual cost would be \$1.2 million to \$1.6 million.

Another 15 to 20 staff needed for planning and management would cost up to \$500,000 a year.

About 15 million tonnes of bauxite, 200,000 cubic metres of hardwood sawlogs and poles and about 350 million cubic metres of water a year were taken from the study area.

Without more research spending, WA could lose a substantial part of this annual production through premature closure of an industry or from damage to water supplies and forest quality.

Land-Use Issues

Perth THE WEST AUSTRALIAN in English 17 Sep 82 p 4

[Text] The [WA Government-appointed Darling Range] study group has listed 21 land-use issues which it says government will need to decide within about 20 years.

It has ranked them into categories--issues needing decisions within a year, five years, 20 years and beyond.

The issues needing decisions within a year included:

--Bauxite mining strategy at Del Park, where mine sites had raised complex issues involving mining in healthy forests, in quarantine areas and near the Dwellingup townsite close to important tourist routes.

--Trial mining in the salt-risk zone.

--Mining near reservoirs.

--Establishment of an aluminium smelter.

--Mine site rehabilitation at Collie.

--Water sources other than the Wellington reservoir where salinity had increased.

--Mineral exploration in State forests.

The report recommended that approval for an aluminium smelter in the South-West should include strict controls on fluoride emission.

Before a site for a smelter was decided all land users should be given time to assess its effects on other productive uses in the region.

There should be a conservative approach to Alcoa's proposals to mine near water-supply reservoirs till existing trial areas had experienced a severe test in years of above-average rainfall.

Mining companies at Collie should be required to prepare plans for local extraction and rehabilitation for integration with current and proposed department plans.

The plans should be circulated to the Environmental Protection Authority and other departments for comment before release.

The report said issues needing continuous review included forest management policies, rehabilitation of mined areas, policies for landscaped conservation on private land, recreation on water supply catchments, urban development on catchments, conservation of productive agricultural land, release of land for agriculture, and construction of public utilities.

CSO: 5000/7507

TOUGH NEW STRIP-MINING CONTROLS IMPOSED BY GOVERNMENT

Perth THE WEST AUSTRALIAN in English 17 Sep 82 p 14

[Text]

TOUGH new measures to prevent permanent damage to pastoral stations by indiscriminate strip mining have been introduced by the Mines Department.

The Minister for Mines, Mr Jones, announcing the measures yesterday, said that all top soil removed from mining tenements on pastoral leases would have to be replaced when mining operations ended.

Non-compliance could result in fines up to \$1000 and a daily penalty up to \$100 while the offence continued, or three months' imprisonment.

The tenement could be forfeited and the holder sued by the pastoralists for damages.

Mr Jones said that indiscriminate use of bulldozers and excavators on pastoral leases was more widespread

than he had thought.

Investigations had been made by the department and the Pastoralists and Graziers' Association after complaints from pastoralists.

They had found that indiscriminate operators seeking alluvial gold scraped off the topsoil, ran a gold detector over the exposed ground and left without restoring the site.

Mr Jones urged pastoralists to report early any large-scale excavation work to the mining engineer or district inspector of mines.

There should be no soil-stripping before methods of rehabilitation were discussed with the mines inspector for the district, Mr Jones said.

The new measures were welcomed by the Pastoralists and Graziers' Association.

CSO: 5000/7507

WA WASTE DISPOSAL OPERATORS SEEK RELAXATION OF CONTROLS

Perth THE WEST AUSTRALIAN in English 3 Sep 82 p 30

[Text]

PRIVATE waste-disposal operators in WA have begun lobbying for greater independence from local government control.

Members of the Waste Management Association, they have become affiliated with the Road Transport Association of WA.

And in a circular letter to all councils in WA, the executive director of the association, Mr W. R. Pellew, has criticised what he calls the increasing intrusion of local government into the disposal of industrial and commercial wastes.

The letter has also been sent to the Minister for Local Gov-

ernment Mrs Craig, and the Minister for Health, Mr Young.

Mr Pellew said in the letter that the operators should be represented on the Waste Disposal Technical Advisory Committee.

The councils had previously encouraged private contractors to service industrial and commercial ratepayers because they did not provide a suitable service themselves.

The private contractors had built up a \$10,000,000 capital investment in the metropolitan area alone but were now concerned that changed attitudes by some councils could jeopardise their future.

CSO: 5000/7506

LOGGING OPPONENTS, LOGGERS SAID TO RESORT TO VIOLENCE

Conflicting Charges in NSW

Brisbane THE COURIER-MAIL in English 3 Sep 82 p 11

[Article by Bill Ord]

[Text]

People protesting against logging in the Nightcap Range rainforest near Terania Creek in northern New South Wales had driven spikes into trees to endanger timber workers' lives, had thrown rocks at logging gangs and abused and threatened them, it was alleged yesterday.

Mr John McGregor-Skinner, the manager of Murwillumbah's Standard Sawmill which is handling the logs being taken out of the rainforest, said: "Claims by the so-called preservationists that their demonstrations are non-violent have been shown to be false by their own actions."

A spokesman for the protesters, Mr John Seed, of Lismore, said he could not believe the allegations.

"We are totally committed to non-violent action," he said. "If anything was done in the manner alleged by Mr McGregor-Skinner, it was without the knowledge or approval of the mainstream protest."

Mr Seed said that some protesters

were about to lay charges of assault against members of logging gangs. "It's they who have been violent, not us," he said.

Spikes in trees

Mr McGregor-Skinner alleged that nails or spikes 15 to 20 centimetres long had been driven into trees marked by the NSW Forestry Commission for felling.

"Whoever spiked those trees was aiming to hurt the logging workers. If a chainsaw hits a spike the chain will break up and fly everywhere with very great danger to anyone near the tree."

"If the tree is cut without the spike being noticed then other workers can be killed or maimed when the log is being sawn at the mill," he said.

Mr Seed said a number of protesters had been assaulted by logging workers.

"One of our people was chased by a worker with a brush-hook," he said. "Others have been punched and kicked. We've tried to play it cool but now I think we must seek the protection of the police and the law."

Arrest of Demonstrators

Canberra THE WEEKEND AUSTRALIAN in English 3 Sep 82 p 30

[Text]

A THREE-WEEK stand-off between conservationists and police over plans to log a rain forest in far northern New South Wales came to a fiery head yesterday.

About two dozen protesters,

mostly from local bush communes, were arrested when they tried to stop loggers moving into the Nightcap rain forest under police escort.

For the past three weeks many of the conservationists

have been camped on Mt Nardi, just outside Nimbin, a two-hour drive across the border from the Gold Coast.

Early yesterday morning they shifted camp to a logging road that foresters have been using to take timber from the lush Nightcap rangers.

When the loggers tried to move in heavy equipment they met with a dual blockage.

The conservationists had parked about 40 vehicles across a winding dirt road leading to the rain forest, making it impossible for anyone to pass.

They moved about a kilometre down the track and defied requests from police to clear the access road.

There was a two-hour standoff while police called in reinforcements, including paddy wagons.

Uniformed men then moved in and the protesters were told they would be arrested if they did not clear the track.

CSO: 5000/7506

SYDNEY AIR POLLUTION SETS RECORD; LAWS ON BACKYARD FIRES EYED

Sydney THE SYDNEY MORNING HERALD in English 2 Sep 82 p 3

[Article by Richard Eckersley]

[Text] Laws controlling backyard fires are being reviewed after the worst month on record for air pollution.

The Minister for Planning and Environment, Mr Bedford, said yesterday that pollution had been high on 20 days in August, the most recorded over one month since the Sydney Pollution Index began in December, 1977.

The index measures brown haze in winter and photochemical smog in summer.

Mr Bedford compared the 20 days of high air pollution last month with an average of seven per month in winter and four per month in summer.

The high number of polluted days was caused by unusual atmospheric patterns.

Sydney missed out on the strong westerly winds common in August. Light winds and cool cloudless nights have trapped pollutants in shallow temperature inversions over Sydney overnight and for several hours next morning.

Mr Bedford said Sydney's brown haze was composed of fine particles emitted by vehicles, industry and backyard fires.

The State Pollution Control Commission would survey community attitudes on backyard burning during Earth Week, September 19 to 25.

"The information gathered from the survey will be used in a review of the laws controlling backyard fires," he said.

"Backyard fires contribute 45 per cent of the impairment to visibility caused by brown haze. In some suburbs, particularly on Saturday and Sunday evenings, the smoke from backyard fires contributes more than 90 per cent of the haze.

"When high air pollution is forecast people should minimise backyard burning."

Mr Bedford said the small particles in the haze were reason for concern even though the health effects are uncertain.

LABOR PARTY PROMISES TOP PRIORITY TO BEAUTIFYING BRISBANE

Brisbane THE COURIER-MAIL in English 3 Sep 82 p 11

[Article by Bill Ord]

[Text] **ONE of the first priorities of a federal Labor government would be to fund a "beautify Brisbane" project.**

Announcing this in Brisbane yesterday, Labor's federal environment spokesman, Mr West, said that not only Brisbane but also many other cities and towns would be given Commonwealth Government grants to help them clean up pollution and finance a wide range of other conservation measures.

"Because most of these projects would be labor-intensive, the program would generate many hundreds, perhaps thousands, of jobs and other economic benefits quite apart from the environmental and aesthetic aspects of the project," he said.

"Local authorities like the Brisbane City Council are as strapped for funds as anyone else in the current disastrous economic climate and, however much they would like things to be otherwise, they just haven't got the money to do what they would like to do and what should be done in the area of conservation and beautification.

"A Labor government would provide the 'seed money' to help them do that job. It won't be a make-work program just for the sake of creating employment.

"It will provide community benefits as important in the long-term as roads, power stations and any

other public utility."

Yesterday morning Mr West toured some of the greater Brisbane area's environmental black spots with the Australian Labor Party's candidate for the federal electorate of Petrie, Mr Deane Wells.

These included Cabbage Tree Creek, Little Cabbage Tree Creek and Downfall Creek.

Mr West said: "They'd have to be first cab off the rank for a clean-up."

In the afternoon, the Queensland ALP president, Dr Denis Murphy, flew him over Moreton Island to make an aerial inspection of the proposed sand mining sites.

"I'm more than ever convinced of the wisdom of the ALP policy against sand mining there," Mr West said.

"A Labor government would not issue an export licence for Moreton sands or minerals. If a licence had been already given, we'd revoke it. What's good for Fraser Island is good for Moreton.

"We also had a good look at the damage the miners have done on North Stradbroke and it horrified me."

CSO: 5000/7506

EDITORIAL EXAMINES SHANNON BASIN CONSERVATION ISSUE

Perth THE WEST AUSTRALIAN in English 1 Sep 82 p 6

[Editorial]

[Text] THE LABOR PARTY in WA was up the Shannon River without a paddle when its State conference took a decision on Monday to retain a hardline conservationist stand on the river basin. An unqualified commitment to a 500-square-kilometre national park in the area would have been a heavy electoral liability.

The three seats affected by such a decision—Warren, Bunbury and Mitchell—are considered vital to the ALP's chances of winning power next year.

A deft retrieval yesterday, however, has enabled the ALP to salvage something from a situation brought about as much by confusion as by commitment to principle. A compromise proposal, in the form of an addition to the party's industrial development platform, commits Labor to maintaining the resource base of the timber and woodchip industries outside the Shannon basin so that no jobs will be lost. The move will give Labor talking points to try to woo the votes of both environmentalists in the city and timber workers in the South-West.

But the balance between conservation and economic development that good forest management requires has been

knocked sideways by the Shannon River policy, which calls for nearly 85 per cent of the basin to be declared a national park.

Is it really necessary for so much of a valuable natural resource to be rendered unavailable? With proper management there is no reason why logging and forest preservation cannot go hand in hand in the Shannon basin for many years to come. The Forest Department's management plan for the basin will provide, once the proposed D'Entrecasteaux national park is established, for 40 per cent of the area to be preserved from logging, and that would appear to be a sensible compromise.

A disturbing aspect of Labor's decision is that it pre-empts the Environmental Protection Authority's report on the area due for release soon. A decision taken without the benefit of that report smacks of arbitrariness, of conservation for its own sake without thought to the consequences.

Even as amended, the party's policy for an area that is already economically depressed, and is being made increasingly more nervous as the timber-industry slump continues and mills are shut down, will be electorally damaging.

CSO: 5000/7506

YARRA RIVER AREA FIRST IN VICTORIA TO GET SPECIAL PROTECTION

Melbourne THE AGE in English 7 Sep 82 p 15

[Article by Rosslyn Beeby]

[Text]

The Bend of Islands district on the Yarra River, near Kangaroo Ground, has been declared Victoria's first environmental living zone.

The new zoning, which involves strict environment protection and planning controls, was announced yesterday by the Minister for Planning and Conservation, Mr Walker.

Under the new controls, houses built in the zone must suit the environment, and colors used on roofs and cladding must blend harmoniously with the bush surroundings.

Pets, including horses and goats, are forbidden, and the area of land that can be cleared on each allotment is strictly limited. Apart from clearing an area to build a house, residents are restricted to a small kitchen garden and a fenced area for live-stock. The only plant species permitted, excluding those in the kitchen garden, are those native to the Yarra Valley region.

Local residents, including artist Neil Douglas, and the Bend of Islands Conservation Association,

worked with Government planning authorities to frame the restrictions. The controls will be enforced by the Shire of Healesville.

Mr Walker said the planning controls were a response to "the sensitive and special nature" of the Bend of Islands. He said he had visited the area several times and was impressed by local conservationists' efforts to preserve the area and control the impact of subdivision and development.

He said it was encouraging to see the people committed to preserving their environment and being good land managers.

About 68 families live in the 750-hectare zone, which has been divided into 140 allotments. The new controls will prevent any further subdivision into areas smaller than 40 hectares.

A spokeswoman for the Ministry for Conservation said yesterday that no other area in Victoria was being considered for the new zoning and that it was likely to be "a one-off" classification in recognition for work done by Bend of Islands' residents.

CSO: 5000/7506

CLASH FOLLOWS WA APPROVAL OF MINING IN STATE FOREST

Canberra THE WEEKEND AUSTRALIAN in English 25-26 Sep 82 p 3

[Article by Steve Harvey]

[Text]

A CLASH between conservationists and the West Australian Government is looming following a decision to open up parts of two million hectares of State forest for mineral exploration and mining.

The entire south-western State forest area has been quarantined since 1971 to prevent the spread of die-back disease, which was rapidly killing off jarrah trees.

A major pegging rush is now expected as mining companies send exploration teams into the forest to peg areas which are considered good prospects for coal discoveries.

Major coal finds have already been made in the south-west region outside the State forest area.

Conservationists reacted angrily yesterday, describing the Government's decision as "disgusting" and "ludicrous".

They expect a ground swell of public opinion against the Government as the full impact of the decision is realised.

A spokesman for the Campaign to Save Native Forests, Mr Simon Neville, said yesterday that the Government decision could only result in the large-scale spread of die-back disease, which would seriously threaten the future of the forest.

'Ludicrous'

"Opening the forest for mining makes a mockery of all their previous attempts at proper management of the environment," he said.

"It's a well known fact that die-back is spread by human intrusion into forests, and no doubt the decision will cause the disease to spread further.

"It's ludicrous to think that for the past five years the

Government has protected forests from die-back and now they are going to open them up to mining.

"Mining of forests will jeopardise their other multiple uses, such as water supply, wood production and recreation.

"The Government has made an incomplete analysis of the long-term problems that may result from destroying forests.

"It's a perfect example of the Liberal Government going ahead with major development at any cost and despite the long-term consequences."

Announcing the decision, the Premier, Mr O'Connor, said that the release of areas of State forest would be subject to conditions agreed to by the respective ministers.

He said applications from mining companies for areas would close in the middle of next month.

CSO: 5000/7508

BRIEFS

HERBICIDE PROTECTION LAW--State Government legislation is being sought to protect people's civil rights against health defects caused by aerial herbicide spraying. The Maroochydore Industry and Development Association is planning to lobby Sunshine Coast authorities and state politicians, including the Primary Industries Minister, Mr Ahern. It wants spraying legislation introduced, probably under the control of the Lands Department, and a policing officer stationed on the coast. Aerial spraying of herbicides 24D and 245T, mainly to eradicate groundsel, is a controversial issue on the Sunshine Coast and has been the subject of a special report to Noosa Shire Council by Cr Joy Laurie. The MIDA spokesman, Mr Terry Read, said: "What we're looking for is to have legislation which will police the use of spraying so civil rights will be protected. "At present, the rights of crops and animals are protected, but there's nothing to protect humans." Mr Read said the MIDA sought support from major chemical companies on the issue. Cr Laurie, in her report, said "adverse effects" of herbicides on humans were "disturbing". She was critical of the State Government's failure to monitor dioxin concentration in chemicals. [Brisbane THE COURIER-MAIL in English 31 Aug 82 p 31]

NOOSA RIVER PARK--THE western catchment area of the Noosa River and lakes system is to be declared a national park. Eventually, the whole of the catchment area will become a national park. The National Parks and Tourism Minister, Mr. Elliott, said in Brisbane yesterday that State Cabinet had approved the move sought by the Noosa Parks Committee and other conservationist groups. The western area is largely declared state forest. It will be left untouched in future. When the Lands and Forestry Departments settles on a site near Maryborough for a replacement forest, and other administrative and legislative details are completed, the Noosa River National Park will be formally declared. Mr Elliott could not give a precise timetable for these steps "but they'll be made just as soon as possible". [Brisbane THE COURIER-MAIL in English 2 Sep 82 p 14]

ARCHAEOLOGISTS ON FRANKLIN DAM--THE Prime Minister, Mr Fraser, has ignored pleas from the world's most eminent archeologists to use Federal Government powers to prevent the flooding of south-west Tasmania. Two of Australia's leading archeologists, Professor John Mulvaney and Dr Rhys Jones, said in Canberra yesterday Mr Fraser had not replied to at least 24 letters written to him by their colleagues at universities including Oxford, Cambridge, Yale, London and the University of California. Professor Mulvaney and Dr Jones

released edited texts of these letters to Mr Fraser which stressed the significance to humanity of traces of Ice Age man found in limestone caves near the Franklin River since 1981. Professor Mulvaney said some of these archaeologists had offered him their support in any Australian or international legal action that conservationists may take to force the Government to intervene in the Tasmanian Government's plans to build the Gordon-below-Franklin dam it estimates will cost \$453 million, excluding post-construction interest payments. [Excerpt] [Canberra THE AUSTRALIAN in English 7 Sep 82 p 3]

CSO: 5000/7507

STEADY PROGRESS NOTED IN WATER CONSERVATION PROJECTS

Lanzhou GANSU RIBAO in Chinese 7 Sep 82 p 4

[Article by Chong Yi [6850 0001]]

[Text] Since the Third Plenary Session of the 11th Party Central Committee was held, the water and soil conservation work of Gansu Province has implemented the party Central Committee's guideline "readjusting, restructuring, reorganizing and improving" conscientiously on matters concerning strengthening of management and exploitation of potential and thus achieved further benefit from the existing water conservation facilities. At the same time, new facilities were constructed according to the actual capability of the province and concrete results were achieved.

In recent years, after the emphasis of water conservation work was shifted to better management, the emphasis was placed on discovering the weaknesses, reinforcing and eliminating risk from dangerous reservoirs, lining culverts, supplementing the field construction work and repairing mechanical and electrical equipment. As a result, various existing water resources were fully utilized, water was conserved, expanded irrigation results were achieved through planned water usage, and diversified operation was developed. A large amount of effort was spent on the establishment and strengthening of water conservation management responsibility system, especially in order to match the new rural situation, and good results were obtained. At the same time, the water conservation front also undertook the construction of some new facilities according to its actual capability. In the past 3 years or so, a total of 5 medium and small reservoirs were constructed, 2,250 km of high standard culvert was laid, 3,310 km of rural electric transmission line was built, more than 553,000 mu of irrigated field were added, more than 2,600 new auxiliary wells were dug, and some other projects were completed to provide drinking water for both men and animals, including more than 146,000 new wells which solved the drinking water problem for 470,000 people and 460,000 cattle and sheep.

The water and soil conservation work of this province put emphasis on the treatment of small river basins mainly by planting trees and growing grasses. From 1979, when the project was started, until the first half of this year, various projects related to the treatment of 34.89 million square kilometers of flood basin, afforestation of more than 3,134,800 mu, establishment of more than 202,700 mu of mountain forest reserve, more than 1,354,000 mu of grassed waste

land, and more than 218,200 mu of mountain slope grass reserve have been completed. Construction of horizontal terraced fields, horizontal strip fields, compacted sandy fields, ditches and flood ditches has substantially progressed on the foundation established in 1978.

Within 3 and 1/2 years, according to incomplete statistics obtained by the concerned unit, the number of small river basins that have been treated has increased from 198 (river basins bigger than 10 square kilometers in area) in 1980 to 649 (including river basins bigger and smaller than 10 square kilometers in area) this year. The area scheduled to be treated this year alone reaches 410 square kilometers. An area of 277.24 square kilometers has already been treated in the first half of this year, amounting to 58 percent more than that accomplished in the same period last year.

9113

CSO: 5000/4102

POLLUTION LAWS FOR KELANI RIVER

Colombo SUN in English 8 Oct 82 p 1

[Article by Jennifer Henricus]

[Text] A massive anti-pollution drive to ensure that no poisons are emptied into the Kelani River has been jointly launched by the National Aquatic Resources Agency and the Ceylon Institute of Scientific and Industrial Research.

It was initiated at the Development Secretaries meeting on Tuesday, following conclusive evidence that the poison which killed thousands of fish in the river recently was an effluent from a manufacturing corporation located nearby.

The two scientific institutions will now closely monitor the 40 state and private industries located along the river. Any evidence of pollution above a standard that will be evolved by these two institutions will be a punishable offence.

A spokesman for NARA told 'SUN' that they will do fortnightly tests on the waters of the river at several selected spots. If the levels of chemicals and metals in the water are above a certain upper limit they will trace the poison to its source and the offender would be dealt with.

Provisions in the National Environmental Authority Act allows for the prosecution of those found polluting any natural resources which are of public use.

This action has been initiated chiefly because the Kelani waters are used for drinking purposes and serves Colombo and its suburbs. Any poisons in the water could enter the pipeline and will be hazardous to the millions of domestic users, the sources said.

CSO: 5000/4301

ENVIRONMENTAL PROTECTION INVESTMENTS EVALUATED

Prague HOSPODARSKE NOVINY in Czech 27 Aug 82 pp 8-9

[Article by Eng Josef Jirat, Candidate for Doctor of Science, Czech Planning Commission: "The Environment. Investment in Nature--But Also in People"]

[Text] In connection with the preparation of the Seventh 5-Year Plan, the Czech Planning Commission undertook, using all available planning and statistical information, the first independent and detailed analysis of investment activity related to environmental preservation in the CSR. All significant investment projects (chosen according to the budgeted costs of projects on which work has begun) related to the preservation of water and air quality and the utilization or destruction of wastes were analyzed. This analysis pointed to the main reasons for a worsening in environmental quality as well as possibilities for its gradual improvement in future years. The analysis did not include problems related to the preservation of the environment from noise pollution or thermal pollution, which to be sure, are not insignificant. To date, however, only relatively small amounts of investment have been devoted to these areas.

In addition to utility, human activity also brings increasing threats to and the pollution of the environment, and often the actual destruction of the environment in the broadest sense of this work; the pollution of the air, of water sources, and the disruption of the biological balance of an area. Our society has exceptionally favorable preconditions for a conscientious concern for the environment: a socialist social order, the planned development of the national economy, and legislative measures for environmental preservation which are among the best in the world. Nevertheless, our current development is creating significant problems related to environmental disruption. The consequences of neglecting the environment are usually not immediately evident, but are cumulative, acquire a qualitatively different form and crop up again much later and often in a completely unexpected sphere.

Back in 1974, the CSR Government announced, in Resolution No 315/1974, its agreement on the designation of the most important populated industrial areas of the CSR in which negative environmental effects are concentrated and where it is necessary to give priority to the solving of problems of environmental preservation (Prague, the North Bohemian Brown Coal Basin, the Ostrava-Karvin Basin, Sokolov-Karlovy Vary Oblast, and the agglomerations of Hradec Kralove-Pardubice, Brno and Plzen). Since 1980, this has included the Melnik-Kralupy-Neratovice oblast, according to CSR Government resolution No 76/1980.

At its third meeting in 1977, the CSR Government took responsibility for a set of measures for the long-range development of environmental preservation and enhancement in these oblasts. In terms of a concern for the environment the preconditions were thus created for granting preference to these oblasts over other parts of the CSR in national economic planning, capital investment, health and compensation measures, scientific and technical development, etc. At the same time, steps had been taken toward a more rational resolution of the entire complex of negative effects brought about by urban development on the environment and health of the residents of the CSR.

During the Sixth 5-Year Plan, 290 investment projects related to environmental preservation were started, with total budgeted costs of Kcs 7.7 billion (Kcs 4.4 billion of this for construction work--in current prices). This represents 3.5 percent of the total budgeted costs for construction projects begun during this period in the CSR. Of these, federal agencies initiated 120 projects with total budgeted costs of Kcs 4.4 billion (Kcs 2.4 billion of which was for construction).

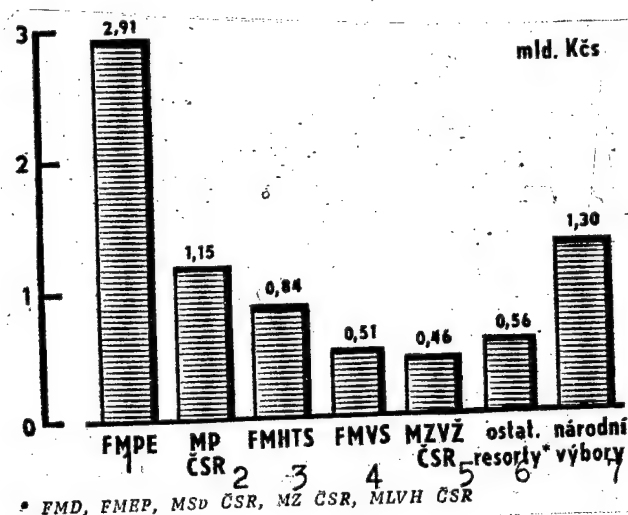
Each agency spent a percentage of this total roughly equal to its share of total environmental disruption (see Graph 1 on following page). Each agency directed investment resources primarily to those areas in which its own activities most damaged the environment. Thus, for instance, the federal ministries of fuel and energy, of metallurgy and heavy engineering, and of general engineering devoted a decisive portion of these resources to the preservation of air quality. National committees, on the other hand, spent almost two-thirds of their total on preserving water purity, and the CSR Ministry of Industry almost equal amounts on the preservation of both of these major components of the environment (see Graph 2, on following page).

Water Purity...

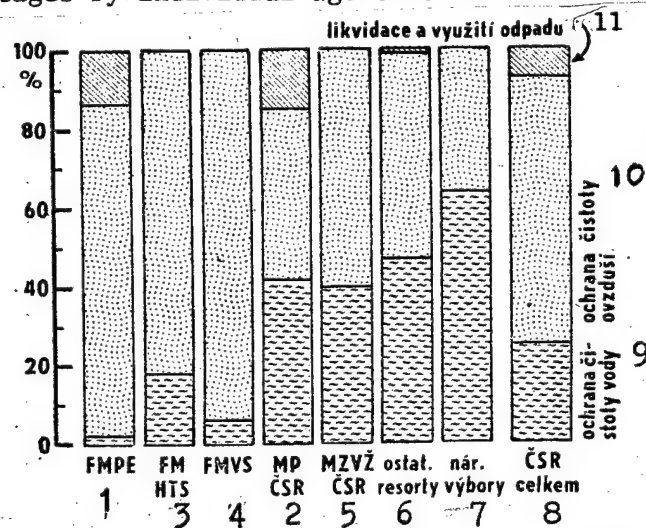
An increasing standard of living in conjunction with improved housing standards and growing water requirements has and continues to result in substantially increased quantities of polluted waste water. The rapid development of agriculture and its shift to mass-production organizational forms with the intensive utilization over broad areas of fertilizers and other chemical preparations for the elimination of weeds, pests and diseases has led to what is called a real contamination of surface and ground water. Relatively obsolete capital assets, the slow introduction of low-waste, or of no-waste production technologies and other factors have led to an increase in industry-generated pollution.

Water quality was also been influenced negatively by frequent instances of the accidental contamination of surface and ground water. The state water management inspectorate investigated during the last 5-year plan more than 1,100 accidents--the escape of petroleum products and of agricultural wastes. The main reasons for frequent accidents were above all the unsophisticated nature of the equipment for the storage, transportation and handling of these materials, but there have also been frequent human failures.

Graph 1: Investment in Environmental Preservation (Budgeted Costs in Billions of Korunas for the 1976-1980 period, by Individual Agencies)



Graph 2: Structure of Investment Utilization for Environmental Preservation (in percentages by individual agencies for the 1976-1980 period)



- Key:
1. Federal Ministry of Fuel and Energy
 2. CSR Fuel Ministry
 3. Federal Ministry of Metallurgy and Heavy Engineering
 4. Federal Ministry of General Engineering
 5. CSR Ministry of Agriculture and Food
 6. Other sectors; Federal Ministry of Transportation, Federal Ministry of Electrotechnical Industry, CSR Ministry of Communications, CSR Ministry of Agriculture, CSR Ministry of Forest and Water Management
 7. National Committees
 8. CSR total
 9. preservation of water purity
 10. preservation of air quality
 11. waste destruction and utilization

Fully one-fourth of the total budgeted costs for initiated construction projects related to environmental preservation in the Sixth 5-Year Plan were earmarked to improve water purity. Construction was begun on 57 waste-water treatment facilities with total budgeted costs of Kcs 1.4 billion. Under the jurisdiction of national committees, one of the most important projects is the upgrading of the central waste-water treatment plant in Prague at a cost of Kcs 306 million, the expansion of the Bruntal treatment facility at a cost of Kcs 49 million, the beginning of construction in Jeseník and in Asi at a cost of Kcs 175 million and Kcs 69 million respectively. Under the CSR Ministry of Industry there is the first stage of the waste-water treatment plant at the Synthesia East Bohemian Metallurgical Plant in Pardubice at a cost of Kcs 148 million; under the CSR Ministry of Health is the facility at Galena Komarov at a cost of Kcs 51 million; and under the Federal Ministry of Metallurgy and Heavy Engineering, a treatment facility at the Bohumin Ironworks and Wire Factory for Kcs 61 million, etc. In addition, construction was begun on another 49 waste-water treatment plants as a part of Project Z with budgeted costs of under Kcs 2 million, and which were designed to solve local water pollution problems (in Pečky, Černovice, Zákupy, Kozlovice, Tovačov, and elsewhere).

According to the CSR Ministry of Forestry and Water Management, during the Sixth 5-Year Plan 69 projects monitored by the plan and related to environmental preservation were completed, representing total budgeted costs of Kcs 1.4 billion, as well as almost 100 smaller scale treatment facilities under Project Z. For instance, a treatment facility was completed at the Záluží ČSSP [Czechoslovak-Soviet Friendship Society] Chemical Plants for Kcs 126 million, and city treatment plants for Teplice in Bohemia at a cost of Kcs 70 million, in Humpolce for Kcs 37 million and in Svitavy for Kcs 100 million. Most of the larger projects which have been completed have met design specifications and, when proper attention is paid to the installed equipment, performance in excess of the design parameters has been successfully attained. Nevertheless, the contribution of the waste-water treatment plants which have just been built has not been sufficient to counter-balance the increase in pollution.

...Remains a Problem

The significant decline in waste-water treatment plant construction in the Sixth 5-Year Plan had a number of causes. Central investors included such projects in the construction plan to a lesser extent than in the previous 5-year plan. Attempts also occurred to resolve problems at the expense of water quality. Contracting organizations did not bid on the projects on the grounds that they did not have enough specialized construction equipment, that there were difficulties in acquiring materials, and perhaps as well out of fear due to the technical sophistication of these projects (they require very high-quality work, considerable labor input, and often demand deliveries of hard-to-acquire technology--especially of subcontracted components necessary for project completion. The procurement problems of contractors also interacted with design problems and resulted finally in the exclusion of certain projects from the plan. While some projects were excluded from the

plan proposal, at other sites where construction had begun, construction activities were limited because of the need to transfer workers to more important projects or because of shortages of materials, both of which served to prolong construction schedules significantly.

The unfavorable development of water pollution was also influenced by other factors. For instance, shortcomings in design preparation or in the operation of these facilities made it impossible at some newly completed facilities to achieve, over the long term the requisite and necessary performance (Novy Bor). Several treatment facilities built before 1970 had become obsolete and, in particular, certain urban plants soon ceased to be adequate for reasons of capacity (Ceske Budejovice, Plzen, Tabor, Olomouc).

Restricted deliveries of the appropriate machinery, equipment and materials made it more and more complicated to upgrade these treatment plants. For various reasons, it was necessary to put off the projected cessation of operation of several factories with obsolete production equipment (sugar factories, starch factories, etc.), where the construction of new treatment facilities would not have been efficient. Inspection organs, however, also determined that certain treatment facilities were not being used to their full capacity. This had come about because of inadequate and negligent servicing of the equipment, the delayed hookup or construction of new factories, sewage lines, and the like.

Weapon Against Emissions

Exceptional attention was devoted during the Sixth 5-Year Plan to the preservation of air quality. One hundred ninety projects were begun with budgeted costs of Kcs 5.2 billion, representing 68 percent of the total budgeted costs for initiated construction projects related to the environmental preservation. This is understandable because an economy with a large installed energy-generation capacity in which the primary source of 80 percent of the generated energy is domestic, largely low-quality coal necessarily exerts a negative influence on air quality. At the same time, the distribution of emissions in the CSR is very uneven, basically correlating with the main industrial centers which depend on the mining and use of coal (above all for electric energy generation).

Steps to assure air-quality protection are conditioned by the following considerations:

- the main source of air pollution is combustion, which generates about three-fourths of all solid and gaseous emissions,
- the reduction of solid emissions to an acceptable level is technically feasible, but a reduction in gaseous emissions (97 percent of which are sulphur dioxide) at the critical sources of pollution (electric power plants and heating plants) is a serious problem in view of the quality of the coal which is burned.

Increased concern for air quality has brought positive results. During the 5-year plan solid-emission separator devices were rebuilt and modernized at

several large and small sources of air pollution. This was the case at two units of the Ledvice power plant, where there was a reduction in solid emissions of 13,000 tons, by two units of the Tusimice I power plant (a reduction of 4,000 tons per year), at five units of the Tisova I power plant (a reduction of 11,000 tons per year), at Five units of the Melnik I power plant (a reduction of 12,000 tons per year), and for all six units at the Opatovice power plant (a reduction of 15,000 tons per year), etc.

Special attention is continually being devoted to the resolution of the complex of problems connected to the reducing of sulphur dioxide emissions at the largest power plants. After evaluating all known and accessible methods, the Soviet magnetization technique appeared to be the most appropriate for us. The combustion byproducts are separated from the sulphur dioxide, dried, and the resulting magnesium sulfite crystals are broken down to produce sulfuric acid. An experimental operational unit should be installed on a 200-MW unit at the Tusimice II power plant.

The desulfurization of combustion byproducts does not apply solely to power plants, but also for other significant sources of emissions. At the A. Zapotocky Fuel Combine in Uzin the most appropriate technology has been tested for the desulfurization of expansion gases, and construction has been scheduled to start in 1982. At the Chomutov Tube Rolling Mills and Ironworks, construction with budgeted costs of Kcs 64 million has been started on equipment for the desulfurization of generator gases.

Solution: Centralization of Heating

A very progressive technique for improving air quality, especially in large industrial agglomerations, is the centralization of heat sources, thereby eliminating scattered sources of air pollution. During the last 5-year plan, the greatest percentage of resources were allocated to these measures with the budgeted costs of construction projects which were started reaching Kcs 2.5 billion. In the Sixth 5-Year Plan, construction was completed on the Komorany heating plant (cost, Kcs 90 million), on the Liberec heating plant at a cost of Kcs 188 million, on the Teplice plant for Kcs 114 million, etc. Construction was begun, for example, on the Brno North heating plant for Kcs 244 million, the Trmice III plant for Kcs 139 million, the Mile II plant for Kcs 121 million, and the Holesovice III plant for Kcs 282 million. In 1980, construction was begun on the Plzen II heating plant for Kcs 492 million. When finished, this plant will not only provide heat to new apartment complexes, but also make it possible to eliminate 2 heating plants, 21 medium-pressure steam boilers, and 220 apartment house and other boiler units, most of which are operating with obsolete equipment. This will reduce the level of solid emissions in the city by about 53,000 tons per year. The centralization of heating and the resulting elimination of decentralized sources has been among the most successfully implemented measures related to environmental protection.

Among the most effective air-quality protection measures has been the replacement of solid fuels with enriched energy forms. Such projects have been

implemented primarily in cases of smaller sources of pollution and have resolved problems especially in older built-up areas.

Despite the limited availability of enriched fuels, a number of projects have been successfully implemented, especially in industrial locales. The tunnel kilns at the Karlovarsky Porcelan factory in Most were converted to gas, as were the boilers at the J. Fucik sanatoria in Teplice and the Vysocany factory of Ceskomoravska Kolben Danek in Prague. The boilers at the Bystrany Electrotechnical Factories, the Horny Slavkov factory of Karlovarsky Porcelan and at the Meat Industry plant in Pribram were all converted to light heating oil. Numerous boilers of the Prague housing management office and in the cities of the North Bohemian Brown Coal Basin and elsewhere were converted to both of these forms of energy.

Other investment projects had considerable significance, even if only locally, for an improvement in air quality. These include the elimination of emissions from the production of synthetic fibers at the Neratovice Spolans plant at budgeted costs of Kcs 135 million, which led to a reduction in gaseous emissions of 4,050 tons per year, the construction of equipment for dust removal from the rotary kilns and clinker coolers at the Radotin Cement and Lime Works for Kcs 52 million (reducing dust emissions by 1,300 tons per year), the selective reduction of oxides of nitrogen at the Lovosice Central Bohemian Metallurgical Plant for Kcs 42 million (reducing gaseous emissions by 4,000 tons per year), the dedusting of the furnaces at the Kladno United Steel Works national enterprise and at the Trinec Ironworks of the Great October Socialist Revolution, as well as tens of other instances of the rebuilding of boilers or of their replacement in the housing management sector and in factories of all production sectors (the Mnichovo Hradiste Fruta factory, the Kynzvalt sanatorium, the Dukla factory of Ceskomoravska Kolben Danek in Prague, etc.)

Assessment of Assets and Liabilities

Measures which were adopted and carried out during the Sixth 5-Year Plan did not, however, compensate fully for the increase in emissions (see graph 3).

In spite of increased inspection activity by the Czech Technical Inspectorate for Air-quality Protection, national committees and the health service, and the more consistent application of economic instruments which became evident in the improved maintenance, servicing and operation of air-quality protection equipment, we were unsuccessful in limiting sufficiently the growth in emissions generated by the overall growth of industrial construction. Increases in emissions occurred in spite of extensive measures taken in large electric power plants, in factory energy generation and in certain operations connected with the metallurgical industry.

An especially unfavorable factor has been a shortage of facilities for the production and maintenance of separator equipment (even though the conditions have been created, for instance, for the gradual expansion of the repair facilities at Usti nad Labem) and a shortage of certain spare parts.

Deliveries of new separators have been directed above all to the outfitting of newly constructed factories and the rebuilding of this equipment at some of the most serious sources of pollution. However, a significant percentage of the existing separators have already outlived their planned useful life of 10 years, resulting in increased amounts of downtime and reduced time in use. It is estimated that during the Sixth 5-Year Plan roughly 70 percent of the total need for solid-emission separators was covered by the Milevsko Plants for Production of Air Technology Equipment.

The quality of the coal that is being burned clearly also has a negative impact on the amount of emissions. Small and medium-sized heating plants with boilers designed to run on sized coal, but also large users burning energy coal in pulverized fuel-fired boilers have often been supplied with coal of inferior quality and a higher than specified percentage of both ash and water. The average heat value of the fuel has declined below the established limit and the consequent more permanent installation of stabilizational oil burners had a negative impact on the operation of the separators, and especially the electrostatic precipitators.

What About the Waste

In the area of the destruction and utilization of wastes, 20 projects were started in the past 5-year plan with total budgeted costs of Kcs 560 million (7 percent of the total budgeted costs for environmental protection). Seven projects were completed at a cost of Kcs 310 million. They were concerned primarily with the destruction of industrial wastes in the fuel and energy sectors and in industry. In most cases, their completion was a condition for the further uninterrupted operation of production equipment. This was the case in the building and expansion of tailing ponds for the ashes and cinders from electric power plants (in the North Bohemian Brown Coal Basin), ash dumps (e.g., for the Ceske Budejovice power plant and the Zaluži chemical factories, etc.). In addition, a number of dumps have been established for solid wastes under Project Z and the related sublimit investments of national committees.

Most solid wastes have been transported to dumps. The number of managed dumps, especially those under central management, has been unsatisfactory, and the percentage of unofficial dumps has remained too large.

Future Measures

In accordance with CSR Government Resolution No 315/1974, priority has been given to the resolution of environmental protection problems in the main industrial regions of the CSR. We have successfully set up a systematic approach to a concern for the environment. To be sure, certain differences have arisen in the meeting of specific objectives among the North Bohemian Brown Coal Basin, Prague, the Ostrava-Karvin Basin and the other designated areas, but they have for the most part corresponded to the differing complexities of environmental problems in each area.

An analysis of investment activity related to environmental protection has shown that even given the limited possibilities of the national economy,

significant resources were devoted to environmental protection in the CSR during the Sixth 5-Year Plan. (see following)

Nevertheless we have not been successful in stopping the negative trend in water and air pollution. The growth of sources of pollution has been relatively rapid, but the implementation of significant projects is for the most part a long-range endeavor, and any positive outcomes from them will become evident only in the upcoming 5-year plan. Moreover, the number of initiated projects in terms of their overall costs indicates the necessity of more greatly differentiating between resources, and concentrating the available resources above all on projects which promise to have a rapid and substantial impact. The assurance of enough spare parts and assembly facilities is also a big problem.

Investments in Environmental Protection in the Sixth 5-Year Plan

Locale	Number of Projects	Budgeted Costs (in millions of korunas)
Prague	29	1,050
North Bohemian Brown Coal Basin	40	1,040
Plzen	4	790
Ostrava-Karvin Basin	20	570
Melnik-Kralupy-Neratovice	8	500
Brno	6	420
Hradec Kralove-Pardubice	17	420
Sokolov-Karlovarska oblast	8	180

Note: 1. The above locales accounted for 48 percent of total CSR investment in water quality, 69 percent of total CSR investment in air quality, and for 81 percent of total CSR investment in waste destruction and utilization.

2. The level of costs in Plzen is affected by the investment-intensive construction of the Plzen heating plant, costing half a billion korunas. In Sokolov-Karlovy Vary Oblast, new projects of relatively low budgeted costs were begun, but here, too environmental problems are being intensively worked on.

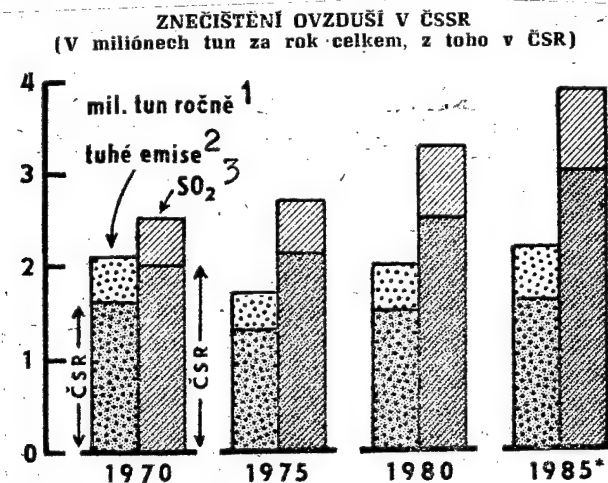
Source: calculations by the author

The governments of the CSSR and the CSR have also discussed the condition of the environment and further developments in the Seventh 5-Year Plan. The CSSR Government, in Resolution No 252/1980, and the Government of the CSR in Resolution No 245/1980, both concerning the Report on the Current Condition of the Environment and on Measures to Enhance and Protect It, have both approved a set of measures to resolve these problems. The limiting of investment flows and a significant reduction in new construction starts could not, however, remain without an impact on the original intentions and measures related to resolve these problems. The limiting of investment flows and a significant reduction in new construction starts could not, however, remain without an impact on the original intentions and measures related to

environmental protection. Nevertheless, in this 5-year plan some successes have already been achieved in resolving the problems of environmental protection. These include:

- the beginning in 1981 of 35 construction projects related to air and water quality and to the destruction or use of wastes, with total budgeted costs of more than Kcs 500 million.
- the completion in 1981 under the jurisdiction of national committees of 28 construction projects related to water and air quality with total budgeted costs of over Kcs 400 million.
- the inclusion of the most important investment projects in the national economic plan at a higher level of priority.
- partial improvements in the provision of measurement technology for protecting air and water quality.
- the formulation of a construction program for small waste-water treatment facilities, to be built primarily under Project Z, to help solve local water pollution problems.
- the assurance of priority deliveries of technology for the general repair of solid-waste separation equipment for the worst sources of air pollution in the sector of the Federal Ministry of Fuel and Energy' for instance, in the North Bohemian Brown Coal Basin there are 14 power plant units for which an outlay of Kcs 200 million will produce a reduction in solid emissions of 82,000 tons per year.
- the development of fluid boilers is being assured, to be operationally tested at the Trmice heating plant.
- the beginning this year of several important projects, such as for instance the desulfurization of gases at the A. Zapotocky Fuel Combine in Uzin at a cost of Kcs 167 million, the waste-water treatment facility at the Mohelnice Moravian Electrical Appliances Plants for Kcs 40 million, and the treatment facility at Spindleruv Mlyn with budgeted costs of Kcs 60 million.

Graph 3: CSSR Air Pollution (Millions of tons per year for entire country, indicating amount generated by CSR)



- Key:
1. Millions of tons per year
 2. solid emissions
 3. sulphur dioxide emissions

Note: The level of sulphur dioxide emissions is determined by increases in the extraction and burning of brown coal and its increasing sulphur content. The chemical industry accounted for a greater share of the increased gaseous emissions because the industry failed to solve the problem of eliminating these emissions.

Regarding the protection of water quality, the beginning of construction is projected on waste-water treatment plants in Cesky Krumlov, and possibly the rebuilding and upgrading of almost 50 other treatment plants, for total budgeted costs of Kcs 1.7 billion.

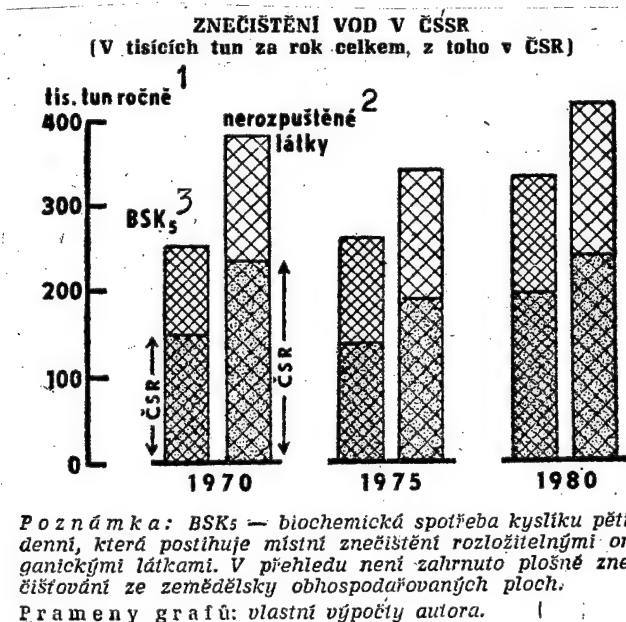
Preference will continue to be given in the area of environmental protection to investments related to air quality. Preparations are progressing for the beginning of the first stage of construction of experimental desulfurization equipment on one unit of the 200 MW Tusimice II power plant with budgeted costs of Kcs 630 million. In the Ostrava-Karvin Basin, in addition to beginning construction for the dedusting of sintering belt coolers at the Vitkovice Klement Gottwald Ironworks, preparations are being made for the investment intensive dedusting of furnaces at the New Metallurgical Works of Klement Gottwald. The elimination of expansion gas odors at the Vresova February Twenty-Fifth Fuel Combine will improve the air quality in the vicinity of Sokolov.

The extensive program of centralizing heat sources will continue. During the Seventh 5-Year Plan, construction should begin on nine heating plants and on tens of kilometers of heat transmission lines with total budgeted costs of more than Kcs 2.3 billion. Increased attention will also be devoted to waste destruction and utilization. Consideration is being given to the construction of industrial waste dumps at a cost of more than Kcs 1.2 billion; half of them would be devoted to electric power plant ash. In Ostrava, consideration is being given to the construction of a city incinerator or a processing plant for the city's solid wastes. Assuring domestic production of pressure filters for waste-water treatment plants would expand the possibilities for using treatment plant sludge.

In Ostrava, the construction is planned of a facility for the reconditioning of motor oil, at a budgeted cost of Kcs 260 million.

In the area of compensation measures, construction will also continue of schools in nature. During the current 5-year plan construction will begin on an additional five schools at a budgeted cost of Kcs 237 million.

Graph 4: Water Pollution in the CSSR (In Thousands of Tons Annually for Country as a Whole, and Amount Generated by CSR)



Key: 1. thousands of tons per year
2. insoluble materials
3. 5-day biochemical oxygen consumption

Note: BSK₅ - 5-day biochemical oxygen consumption, which describes local pollution in terms of decomposable organic materials. This graph does not include areal pollution resulting from agriculturally overmanaged lands.
Source: calculations by author

9276

CSO: 5000/3021

WEATHER SERVICE, HEALTH MINISTRY DIFFER ON POLLUTION ISSUE

Tel Aviv MA'ARIV in Hebrew 9 Sep 82 p 21

[Article by Aharon Pri'el: "Nine Incidents of Dangerous Air Pollution Registered in Tel Aviv in 1 Month Alone"]

[Text] In the month of July, the weather service published six forecasts of poor air quality in Ashdod. According to the health department, the incidents were investigated. No measures were required. The power plant in Tel Aviv has a different standard from that in Hadera. According to the experts: "We have to change the standards of Reading D, which is polluting the Tel Aviv air."

The electric company's power plant in Hadera must not deviate--even once a year--from the "production" of .3 particles per million of sulphur dioxide in the air. That concentration constitutes half of the Israeli standard for air quality.

The electric company's Reading D power plant in Tel Aviv is permitted by law to "contribute" by way of smoke exhaust from the plant's stacks double the quantity permitted by the Hadera standard.

Two countries? Not exactly. Two laws, two standards, even though only 50 kilometers and 10 years separate the two standards: from one, stack pollution is permitted, and from the other it is not.

The solution, according to air quality experts in the weather service, is to "change the standards of Reading D and adjust them to those of Hadera." The existing condition permits legal air pollution in the Gush Dan area at a concentration double that allowed in Hadera.

A Dual Security System

The commission that established the operating standards of the power plant in Hadera determined that that plant must not deviate by even half the permissible concentration of sulphur dioxide in the air--sulphur dioxide being the most dangerous pollutant to human health. This according to the administrator of the R&D department in the weather service, Alexander Menes, and the director of the environmental research section of the weather service in the Ministry of Transport, Dr 'Ilan Seter.

In Tel Aviv, the experts explain, "a metropolis in which more than a million people live and work, monitoring stations are operated in which dangerous pollutants have been measured escaping from the stacks of the Reading D plant; these pollutants would have been sufficient to arouse the control and supervision system had the incident occurred at the plant in Hadera, but in Tel Aviv they did not do anything."

The weather service people ask: "Why are there three monitoring systems in Tel Aviv, each operating separately and each with different equipment, sometimes with obsolete equipment; and why must many authorities publish separately their findings on the issue of air quality in various parts of Israel?"

The existing procedures require that the power plant in Hadera operate, just as all the electrical generating plants operate, a special exhaust reduction system from the plant stacks whenever the weather service predicts poor air quality. Additional control measures are taken when the watch stations indicate a high concentration of air pollutants.

"A dual security system at the plant in Hadera assures the activation of control and supervisory measures for any problem. Despite that, in accordance with the Reading D law, no control measures have ever been taken since it started operating," according to Mr Menes and Dr Seter.

The experts admit today that they bowed to "enormous government and public pressures." This happened about 8 years ago when they were asked to set up operating standards for Reading D. The weather service experts asked for the construction of a 270-meter stack. The final compromise was for a 150-meter stack; since the station has been in operation, no attempt has ever been made to change the Reading D law, "despite many dangerous deviations that adversely affect the health of the population and the quality of the environment, in which more than a million people live and work," the weather service people say.

"When the weather service forecasts poor air quality for Gush Dan, the standards do not require the activation of control and supervisory measures to reduce the pollution escaping from the Reading D stacks. It is only necessary to send supervisors from the monitoring stations to check whether in fact higher than permissible levels of pollutants were registered," say Mr Menes and Dr Seter.

In contrast to the situation in Gush Dan, at the Eshkol power plant in Ashdod, the electric company operates a system of controls for air pollutants escaping from the plant's stacks. The weather service forecast also warns of poor air quality. The electric company has invested large sums to store low-sulphur fuel for use when air pollution is forecast as a result of poor air conditions.

In July of this year the weather service published nine forecasts of poor air conditions in Tel Aviv and six forecasts of poor air conditions in Ashdod in the vicinity of the Eshkol plant. The forecasts of poor air

conditions in Tel Aviv for the month of July were for 7, 11, 12, 16, 18, 19, 20, 22 and 26 July.

In response to the claims of the weather service people, it was reported by the Ministry of Health that three monitoring networks operate in Tel Aviv: one is operated directly by the Ministry of Health, one is operated by the electric company under the supervision of the Ministry of Health and the third, by the municipality of Tel Aviv.

Half the Equipment Is Obsolete

As for the equipment, it became clear from the explanations of the Ministry of Health that half of it is operated directly by the ministry. This part of the equipment is relatively new. The other half is older. The equipment is in good enough shape to allow for individual units that are temporarily out of service to be replaced by spare equipment.

The experts from the Ministry of Health and the weather service are divided in their views of the quantity of sulphur dioxide concentration in the Tel Aviv area. The Ministry of Health people claim that the concentrations measured in Tel Aviv and the periods of time in which the concentrations that pollute the air were found "were and are lower than that permitted under the Israeli standard." The weather service claims just the opposite.

The Ministry of Health people explain the negative effects of sulphur dioxide on human health: "First and foremost is its effect on the respiratory system."

The ministry experts contradict the claim of the weather service people on the question of differences in standards. "There is no difference in the air quality standards by which the various power plants operate. There is only one Israeli standard in both cases, but there are different control and operating procedures for the plants. The plant in Tel Aviv is operated on the basis of a special control procedure that was prepared with the operation of the first production unit at the Reading D plant," they claim at the Ministry of Health.

The power plant in Hadera is operated according to different procedures prepared by a professional echelon that the local council established at the time for planning and construction. That according to the Ministry of Health people. "Both procedures have the force of law even though they were approved by different government authorities." There was no need, in the opinion of the Ministry of Health people, to activate special control procedures in Tel Aviv since, according to the findings available to them, the concentration of sulphur dioxide in Tel Aviv was below the Israeli standard, a finding that contradicts the claims of the weather service experts.

And what about the launching of controls on those dates for which the weather service warned of poor air conditions in Gush Dan? At the Ministry of Health they reply: "In all the cases in which the weather service

published a forecast warning of serious conditions expected for air quality, Ministry of Health controllers checked the quantity of pollutants at the monitoring stations, and there was no need to take the advanced measures of the existing procedures for operation of the power plant."

Nevertheless, we did not get from the Ministry of Health exact dates on which controllers were sent out, as required by the procedures, to check the monitoring instruments upon receipt of a warning from the weather service.

9794

CSO: 5000/4501

IMPROVEMENT REPORTED IN LAKE TIBERIAS WATER QUALITY

Tel Aviv HA'ARETZ in Hebrew 7 Sep 82 p 7

[Text] In a meeting that took place yesterday in the office of the minister of health in Jerusalem, the water director, Mr Tzemah Yishai, reported to the minister of health, Mr Eliezer Shostak, that the Lake Tiberias water situation is greatly improved.

The purpose of the 'Inan water reservoir, which holds 9 million liters of water, is to prevent the entry of polluted water into Lake Tiberias; it will become operative in another 3 months. Investment in this reservoir will reach 100 million shekels.

Effect of the Reservoir

With the opening of the 'Inan reservoir, the entry of polluted water into Lake Tiberias will be prevented; i.e., water with a fishy smell that flows in the western channel of the Jordan and refuse from the settlements in the Tiberias winery crescent that now flows into the western channel of the Jordan. The construction of the entire reservoir was accomplished by the water commission.

Mr Tzemah Yishai also reported to Mr Shostak on the complete drainage of 1,200 dunams of fish ponds and their conversion to regular sown areas; 1,500 dunams of fish ponds will be deepened and will be operated in such a way as to require the removal of the water only twice a year.

Jordan Water Quantity

Mr Yishai noted that this activity will significantly increase the quantity of Jordan River water that bypasses the polluting fish pond waters. He further reported that the water system today collects all of the purified water from the sewage of the city of Safed and directs it into agriculture. The water commissioner notes that the quality of the water that leaves the purification facility in Safed is high, about 98 percent pure.

The Qiryat Shemona Reservoir

Mr Yishai reported that work has begun on the Qiryat Shemona reservoir, the purpose of which is to store Qiryat Shemona refuse and, after it is

biodegraded, to divert it to agricultural use in the surrounding farms. The minister of health gave these activities his blessing, since they have greatly improved the condition of Lake Tiberias, and promised the water commissioner that together with the minister of agriculture and the minister of the interior, he would act to earmark additional budget funds that were promised in the past by the ministerial committee when the question was raised in public of the future of the lake and the quality of drinking water.

9794

CSO: 5000/4501

DROUGHT REPORTED PUSHING SAHARA TO SOUTH

Johannesburg THE CITIZEN in English 19 Oct 82 p 8

[Text] DOULA (Cameroun). — People, animals and crops in Chad and northern Cameroun are suffering from a drought which could presage a quickening in the southward creep of the vast Sahara desert.

Doctors travelling with UN relief teams delivering emergency food aid to remote areas of Chad last month found a significant amount of malnutrition; diplomatic sources said.

Wild animals in northern Cameroun's Waza game reserve, a star tourist attraction, are dying of thirst as two consecutive light rainy seasons have left many watering holes dry.

Floods that usually fill them did not come for the first time in two centuries, the government daily Cameroun Tribune reported recently.

Cotton

Authorities in the cotton-growing south of Chad have scaled down their estimates for this year's cotton harvest. Output is now estimated at between 80 000 and 85 000 tons, down from earlier expectations of 145 000 to 150 000 tons.

Cameroun is likely to produce only 60 000 tons instead of last year's 80 000 tons.

While the dislocations of civil war in Chad have been blamed for part of the food problem, the major cause of shortages is drought.

CSO: 5000/22

SOUTH AFRICA

BRIEFS

ZULULAND DROUGHT--According to KwaZulu Government officials at least two people are dying of malnutrition each month and the situation is becoming increasingly serious because of the prolonged drought in the area. Officials say the three-year-long drought has caused massive crop failure in the area with children starving. The medical superintendent of a hospital in the area, Dr Steven Knight, said yesterday the hospital was treating numerous cases of malnutrition. Unless rain fell shortly and local tribesmen could plant to feed themselves, the situation would deteriorate even further. The Red Cross has sent 1,000 bags of mealie meal to the area for distribution among the most needy families. The organisation also sent 500 bags of mealie meal to Mhlabalatini, where the situation is also critical. "Operation Hunger Organisation" is also distributing a daily cup of soup to 50,000 children. [Text] [Johannesburg THE CITIZEN in English 20 Oct 82 p 10]

DANGEROUS GASES--While it was accepted that radiation produced by nuclear power was dangerous, it was rarely taken into account that large amounts of dangerous gases were released by power stations generating energy from coal, the South African Association for the Advancement of Science heard this week. The Director of the Department of Isotopes and Radiation at the Nuclear Development Corporation (NUCOR), Dr D van As, was speaking at a meeting of the Association's Northern Transvaal Branch in Pretoria on Monday night. He said a power station generating 1,000 megawatts of energy would produce, among other gases, 7-million tons of carbon dioxide and 24,000 tons of sulphur dioxide in a year. To generate the same quantity of energy, 30 tons of uranium would be used by a nuclear power station. It would produce five cubic metres of the highest radioactive material and 2,000 drums of the lowest radioactive material which could be kept under control in a glass drum. Regarding the disposal of radioactive material, Dr Van As said one idea being considered was to store the waste material in glass containers enclosed by steel. These containers would be buried deep underground, and it would take 1,000 years for the radioactive material to penetrate streams or the ground surface. Dr Van As said the maximum dosage of radiation allowed at the border of the Koeberg nuclear plant was 0.025 rem. SAPA [Text] [Johannesburg THE CITIZEN in English 20 Oct 82 p 12]

DROUGHT AID--In future, drought relief would be handled as conservation measures and not as rehabilitation measures reported, the Deputy Minister of Agriculture, Mr Gert Kotze, said yesterday. The new measures introduced to reduce the affects of drought would be aimed at maintaining agricultural resources and in particular pastures. Opening an Angora research farm at Jansenville, he said State assistance would be provided in the case of seriously affected drought areas. However, farmers making any claims would have to contribute in some other way. Farmers should be prepared, under normal circumstances, to keep within the prescribed stock numbers. Assistance would not be given to farmers whose stock numbers had decreased by a third. Mr Kotze said in order to ensure better communications between the Government and organised agriculture, local as well as national drought relief committees would be formed. There would be direct consultation between the two committees to avoid any unnecessary delays in providing drought relief aid. Sapa. [Text] [Johannesburg THE CITIZEN in English 21 Oct 82 p 10]

CSO: 5000/22

NEW LAW TO CONTROL AIR POLLUTION COMES INTO FORCE

Helsinki UUSI SUOMI in Finnish 3 Oct 82 p 6

[Article: "Implementation and Guidelines Not Yet Organized"]

[Text] An air protection law went into effect in the beginning of October, but the implementation of the law and other arrangements are not yet complete.

For example, the City of Helsinki has not yet determined which organ will act as an official air protection office. Espoo and Vantaa have appointed their boards of health as administrators of practical matters.

Cooperation Secretary Kari Wallenius of the Cooperative Council of the Capital City Area (YTV) states that YTV does not have a single individual in this area also.

"We have requested from the communities the authority for YTV to function as an area-wide general overseer, but the municipalities have not yet made a decision on this proposal."

YTV would procure experts in various areas, who are not yet even available to the provincial governments, for air protection jobs. The first experts will possibly be acquired next year.

There are also yet no guidelines from the Interior Ministry or the provincial governments for the implementation of this new law; the provincial governments will function as the highest authority and will grant permits for so-called air polluters.

100--200 Air Polluters in Helsinki Area

Secretary Wallenius of the YTV's Environmental Protection Board states that, for example, there is no precise information on how many facilities would require permits in the Helsinki area. The estimates fluctuate between 100 and 200.

An air polluter must present a report on its anti-pollution measures to the provincial government, which can grant a permit for its operations from the point of view of preventing air pollution.

Older plants and facilities will have a year and a half grace period. Since the processing of permits can take a long time, it will perhaps be years before the air protection law can be fully implemented.

10576

CSO: 5000/2506

STUDY OF GULF OF FINLAND SEALS TO AID IN POLLUTION ANALYSIS

Helsinki HELSINGIN SANOMAT in Finnish 26 Aug 82 p 11

[Article: "Seal Study Discloses Pollutants in Gulf of Finland"]

[Text] The nearly 10-year study on mercury- and heavy metal concentrations in seals in the Gulf of Finland is in the chemical analysis phase. The first reports of the joint project of the Oceanic Research Institute and the Game and Fisheries Research Institute will be published in the fall.

The layer of fat under the skin, muscles, liver, and kidneys in approximately 30 seals will be analyzed in the study. The purpose is to measure the amount of heavy metals, mercury, cadmium, and zinc found in these animals as well as to determine the contents of chlorinated hydrocarbons and the notorious DDT and PCB chemicals.

"The seal is an important subject of research. It represents a rather accurate reflection of the changes taking place in the environment. Pollutants are immediately seen in the organs of seals," states assistant Olavi Stenman of the Game and Fisheries Research Institute.

A similar but more extensive seal study was conducted earlier at Oulu University. Poisons in the Baltic Sea are clearly visible in the Perameri seals.

"We have had difficulties in obtaining a sufficient number of seals for the study. Of the two types of seals the gray seal is protected and the hunting season for the marble seal is limited to a couple weeks in the early spring. All dead seals from nets as well as on the shore have been used for the study," states Stenman.

All in all, the researchers have obtained samples from approximately 30 seals while the number of seals analyzed in the Oulu study was much greater.

The biological goal of the study is to determine pathological changes caused by chlorinated hydrocarbons in the seals. "Toxic substances have disturbed the ability of seals to reproduce, among other things," states Stenman.

10576

CSO: 5000/2506

GOVERNMENT EXPECTED TO TOUGHEN LAWS ON SHIPS' OIL DISCHARGES

Stockholm DAGENS NYHETER in Swedish 22 Sep 82 p 10

[Text] Even though oil receiving stations are available at 15 locations along the coast of Sweden near harbors, many ship's captains still cannot resist the temptation to dump their oil at sea.

Last year 261 cases of oil discharges at sea were registered by the coast guard, but now tougher laws are in the works that would require more than just light fines.

If parliament approves the plan, a water pollution fee will take effect on 1 January 1984. The amount of the fee will depend on the size of the ship and the amount of oil discharged.

The lowest fine, according to the schedule, is 5,000 kronor for 1,000 liters from a 3,000-ton ship. A 50,000-ton ship that releases 501,000 liters would pay 498,750 kronor.

The new fines are one of Sweden's contributions to this year's World Navigation Day which will be celebrated throughout the world one day this week. The Communications Ministry and the Shipping and Navigation Administration have chosen Thursday.

On Thursday an information meeting will be held on global cooperation under the leadership of IMO, the United Nations organ for technical navigational questions. The theme will be the prevention and monitoring of pollution from ships.

It is estimated that a new international convention on ocean pollution, Marpol, will take effect in 1984 after over 10 years of preparations. One important feature of this convention is the establishment of special regulations for particularly sensitive regions such as the Black Sea, the Mediterranean Sea, and the Baltic Sea.

The release of oil will be completely prohibited in these regions. With regard to the Baltic Sea nations, Marpol will be supplemented by the Helsinki Convention, which has been implemented since 1977, although it took effect formally in 1980. It has been approved by all the Baltic Sea nations.

Within the framework of this regional cooperation, Sweden has presented many proposals and views, according to Lennart Alarik at the legal section of the Communications Ministry.

"We would like to see the other Baltic Sea nations eliminate fees for ships that empty their ballast water and tank washings at the oil receiving stations."

So far, Sweden is the only country that has done so. This, of course, is designed to make it more attractive for ships to take the extra trouble. Plans are to remove the fee for emptying machine-room oil as soon as possible. At present, this can be done at 50 locations along the coasts of the Baltic Sea nations.

Last year parliament approved a program to make sea transports less harmful to the environment by gradually introducing new measures according to a list of priorities. Some important areas are dredging, blasting of shoals, and improved traffic control.

One interesting project is designed to make coastal tankers less harmful to the environment. The idea is to introduce a passage fee which would be used to reward ships that fulfil certain minimum environmental requirements. The system will take effect in 1984. Next year stricter regulations will be introduced for piloting ships with hazardous cargo in Swedish waters.

The new water pollution fee for emissions from tankers will be collected by the coast guard. The question is how effective this control will be. The coast guard has three planes for air reconnaissance, but this is far from adequate. Only a few of the offenders are caught.

"A microwave radiometer that can detect the thickness of oil spills will be added to our equipment," said Sven Uhler, chief of the Frontier Guard. This is important for determining how much oil has been discharged. We also need to increase the time we spend in the air from 2.5 or 3 hours at present to over 5 hours."

"Our largest plane is a Cessna that takes up to 10 passengers. We need a turboprop plane with room for 12 people and the new equipment."

The coast guard needs an appropriation of 10 million kronor to show that Sweden is serious about enforcing the new water pollution regulations.

9336
CSO: 5000/2504

SWEDEN

STUDY SHOWS DROP IN AMOUNT OF HAZARDOUS WASTE SINCE 1978

Stockholm DAGENS NYHETER in Swedish 21 Sep 82 p 20

[Text] The amount of hazardous waste in Sweden is decreasing. A 1978 survey found 500,000 tons, but now the figure has dropped to 466,000 tons.

Still, however, no one knows what to do with 3,000 tons of the waste--in addition to nuclear waste from our Swedish nuclear power plants.

This was revealed by a nationwide survey presented at an international conference on waste, Elmia Waste 82. The conference began on Monday in Jonkoping. The survey, which was commissioned by the Environmental Protection Board, was based on 30,000 questionnaires to companies involved in industry, commerce, agriculture, forestry, healthcare, and other fields.

Five percent of the companies in this country produce 50 percent of the hazardous waste and 10 percent are responsible for 75 percent of the waste. Thus, the problem is concentrated to a few companies.

Hazardous toxic waste, i.e. waste that is directly harmful to nature and man and whose damage cannot be repaired, is responsible for less than 5 percent of the total quantity, according to the survey.

Most of the hazardous waste is produced by the engineering industry, which is responsible for 28 percent. It is followed by agriculture and forestry with 25 percent, closely followed by the iron and steel industry with 20 percent. The chemical industry is responsible for 17 percent.

The most common form of waste that is harmful to the environment is polluted water, which is responsible for just under half of all the waste. It is followed by oil which is responsible for 20 percent. PCB, cyanides, cadmium, acids, and heavy metals are responsible for about 7 percent.

9336

CSO: 5000/2504

END

B1 - CONTROL NUMBER: U013022
B4 - ACCESSION NUMBER:JPRS-82203
B3 - COLLECTION CODE: 3
B6 - MANAGEMENT CODE: XR
B7 - PROCESS ACTNG CD: 01 B7A-REGISTRATION FEE: 00000
B8 - PRODUCT MANAGER: H
B9 - RECEIPT TYPE: 1 B9A-LOAN DUE OUT:
B10- TRANSACTION: TN B10A-DUPE/PRIOR/SUPER:
B12- RETURNS: 0 B12A-RETURN DATE:
B13- PROCESSING: 1
B14- PAT. POTENTIAL: 0
B17- FORM/PRICE: 12002 ,
B18- ANNOUNCE: 0000
B19- PUBLICATION-1: u8309 B20- PUBLICATION-2:
B21- LIMITATION: 0
B23- PC BIN: 000
B24- STOCK: 0007 B24A-STOCK TYPE CODES: D
B25- PAGES/SHEETS: 00050
B26- PC PRICE CODE: A03
B27- DOMESTIC PRICE: 0000000 B28- FOREIGN PRICE: 0000000
B29- ACTION CODES: SS
B33- MN PRICE CODE: X00
B34- DOMESTIC PRICE: 0000000 B35- FOREIGN PRICE: 0000000
B36- ACTION CODES: XM
B37- RELEASABILITY CD: A
B38- MF PRINT: D
B39- ADDITIONAL INFO: n
B40- PRINT PC: n
B41- PC DUE: n
B42- SOURCE ORDER: n
B42A-GENERATE RDP: 0
B42B-SUPPLIER SRC CD: n
@06)Worldwide Report, Environmental @@@
Quality, No. 376.[@@@
@11)9 Nov 82,[@@@